

Maine DEP Environmental Compliance and Pollution Prevention Guide



**for Composite Boat Builders &
Repairers**

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Table of Contents

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	<u>Page</u>
Introduction	2
Air Quality/Air Emissions.....	2
Solid/Liquid (Hazardous) Waste.....	4
Universal Waste.....	6
Water.....	6
Worker Health & Safety.....	6
Small Business Compliance Incentives Policy.....	7
Pollution Prevention.....	7
Checklist for Small Business Assistance.....	8
Resources and Contact Information.....	8
Appendices.....	8

Introduction

Maine has a history of building boats extending back to the 1600s. Our history of boat building ranges from fishing boats and pleasure boats, both motor and sail powered, to smaller boats such as kayaks and canoes. Boat building in Maine includes the use of construction materials that provide structure, maintenance, aesthetics, and performance advantages that many boat users prefer. Materials and processes used in boatbuilding and repairing include hazardous and toxic chemicals.

The Maine Department of Environmental Protection can provide assistance to boatbuilders and help improve environmental compliance. The following guidebook provides information for developing compliance and beyond compliance practices to reduce regulatory requirements as well as potentially reduce costs.

Managing your business for Air Quality/Air Emissions standards:

- **Complete an up-to-date chemical (supply) inventory for your business.** *It's a requirement to have an air emissions license from the State of Maine, if your VOC or other criteria air pollutants exceeds the level of 10 lbs. of VOC/hr or 100 lbs./day.* These air pollutants include styrene resins, paint thinners, paints, etc. To begin this process, find out what you are using and storing and then determine and maintain an accurate **chemical inventory**. This inventory will determine if your source (business) exceeds this threshold under “normal” operating procedures, then your business will need an air emission license.
- **Application of Resin/Gel Coats-Increase transfer efficiency of your production chemicals.** Spray guns that are properly operated, by trained operators, can increase the efficient transfer of chemicals and produce the high quality product. Also, use the most efficient equipment, like HVLP spray guns or Fluid Impingement Technology (FIT), to apply material. Minimizing material overspray and other sources of wasting production materials reduces waste handling, saves money, and reduces pollution.
- **Close containers** with solvents, paints, and other coatings, etc., to help reduce odors and emissions. Make sure covers, lids, and bungs are secure on solvents, paints, and coating containers when not in use.
- Use **lower percent styrene** products for fiberglass and gel coat construction. These materials that contain less styrene solvent on a per pound basis can and have proven to meet high quality standards while reducing air emissions.

- Use paints, thinners, and resins with **lower percent volatile content**. (This information is on the containers.)
- Use **acetone replacements or alternative methods for cleaning** work surfaces and tools. Do you need to use acetone? If so, can your business use less? Would a less hazardous alternative be just as effective?
- **Adapt your production process**, such as by applying vacuum infusion system whenever possible **to reduce emissions and product use**.



Vacuum infusion method to reduce emissions and product use.

- **Properly ventilate workspace**, especially during colder weather when building air exchange is minimal. **Monitor air quality in your building** so that chemical exposure to you and any workers can be minimized. Contact Maine Department of Labor's **Safetyworks!** Program toll free number at 877-723-3345 for a free health and safety audit including air monitoring.

Reduction of the use and generation of hazardous compounds will improve the workplace and local environment. It will also reduce your waste volume, handling space, employee handling time, and associated costs.

Currently, there are three boatbuilders in Maine that have sufficient business production activity which requires a special air licensing under Major Source standards. Please review your chemical inventory and if you exceed 10 lbs. VOC/ hr or 100lbs. VOC/ day, please contact the department: 1-800-789-9802.

Managing Solid/Liquid (Hazardous) Waste at your business:

- **A hazardous waste management (contingency) plan is required for large quantity generators. Its purpose is to minimize hazards to human health and the environment from an “unplanned” release of hazardous waste, such as a leak or fire.** It includes information such as Emergency Coordinator, emergency equipment, emergency procedures, evacuation plan, and aid agreements.
- **Develop and know your oil storage SPCC plan.** Federal requirements determine a SPCC (Spill Prevention, Control, and Countermeasures) plan is necessary for facilities with aggregate aboveground oil storage capacity greater than 1,320 gallons.

Acetone contaminated rags, wipes, and liquid waste acetone require special handling as a *hazardous waste*. Hazardous waste has specific regulations for handling and disposal. Acetone is a “listed hazardous waste” and Federal standards require rags or other substances contaminated with acetone be handled as a hazardous waste. Reduce your costs and regulatory burden by reducing (or consider possibly eliminating) the use of acetone. *Request our Best Management Practices and Hazardous Waste Management Regulations for more specific compliance information regarding hazardous waste management.



Solvent distillation unit for reducing hazardous waste

- **Resins and gel coats--** Fully-cured resins and trimmings may be disposed of as solid waste, such as a bucket containing hardened resin at the very bottom of a work pail. If a resin or other chemical does not fully catalyze to become a solid waste while making or repairing a boat, it will require disposal as a hazardous waste. A liquid material that requires handling as a hazardous waste can not be allowed to

vaporize for purposes of “disposal.” Treatment and evaporation are violations of State of Maine Hazardous Waste Management Regulations and results in toxic air emissions.

- **Keep chemicals inventoried in safe and flammable storage cabinets** that are vented outside. Some chemicals are not compatible for storage in the same cabinet and require special containment distances (example: peroxides and some other chemicals). Evaluate your chemical storage room for ventilation and utilize containment pallets/secondary containment for all large containers in case of spills.
- **Keep your hazardous waste generation rate at Small Quantity Generator (SQG) level when feasible.** An SQG **generates** less than 220 lbs. (approximately ½ drum or 27 gallons) per month; and **accumulates** no more than 1 drum (55 gallons) of hazardous waste on site at any one time.

The following requirements must be met by each SQG that stores a total of 55 gallons or less of hazardous waste. From page 9 of the *Handbook for Hazardous Waste Generators*:

- 1) Determine which of your wastes are hazardous.
- 2) Store hazardous wastes in container of 55-gallon size or less.
- 3) Label each container “Hazardous Waste”.
- 4) Label each container with the date you first deposit waste in it, and with the date the container becomes full.
- 5) Ship each full container off site within 180 days of filling.
- 6) Use a hazardous waste manifest form.
- 7) Use a hazardous waste transporter licensed by the state of Maine.
- 8) Send waste to a licensed, authorized hazardous waste facility.
- 9) Report all hazardous waste & hazardous matter discharges to the DEP.
- 10) Do not treat hazardous waste unless licensed to do so.

- **Properly** store chemicals with secure lids to reduce the risk of spills.
- **Keep labels on products and wastes** to quickly identify them and to prevent accidental mixing.
- **Handle and dispose of chemicals that are out of date or beyond their usefulness** in accordance with State of Maine Hazardous Waste Management Rules.

Here are some typical compliance determinations found by DEP Hazardous Waste Inspectors. (In other words, these are the don'ts of hazardous waste management listed in order from most to least common):

1. Failure to keep containers of hazardous waste closed except when adding and removing waste. (Evaporation of hazardous waste in the air exposes workers to additional toxic vapors and is considered treatment without a license.)
2. Evaporation (treatment) of hazardous waste. (see above.)

3. Failure to label containers of hazardous waste (with the words “Hazardous Waste”) and include the date upon which waste accumulation began. (This insures that waste is identified and that waste is taken off site on a timely basis.)
4. Failure to store hazardous waste containers on a firm working surface (such as asphalt or concrete) which is impervious, entire, and constructed to prevent spillage from leaving the area (bermed).
5. Failure to conduct and document daily inspection for all container of hazardous waste. (Daily inspections help to insure that any leaks or spills are caught before they become a bigger problem.)
6. Failure to conduct and document a personnel training program for hazardous waste management.
7. Failure to determine if waste is hazardous waste.

Managing Universal Waste from your business:

- Unwanted batteries (not vehicle batteries), cathode ray tubes, lamps, mercury thermostats, and intact non-leaking PCB ballasts are considered universal wastes. Universal waste rules require the management of these hazardous wastes and also ensure that their hazardous constituents are captured and recycled or reused where feasible. Fluorescent lighting, and other similar wastes require special handling as “universal waste.” Contact our department 1-800-789-9802 for specific handling requirements and locations.

Managing water use at your business:

- **Floor drains--** If you have floor drains, make sure they are properly connected (holding tank, etc.) and fluids are properly managed. Maine’s Underground Injection Control Standards may require a permit be obtained. If you don’t need a floor drain, consider removing them as they can be an environmental liability.
- **Marinas and Boatyards--** If your business is near water, you are responsible for waste that may enter the water either directly or indirectly. In addition to our Best Management Practices (BMPs) for Boat Builders and Repairers, we have BMPs for Boatyards and Marinas.

Contact Maine DEP at 1-800-789-9802 to receive a copy.

Worker Health and Safety at your business:

- **Have you done all you can to protect the health and safety of your employees and yourself (and family)?** Pollution prevention, increased efficiency, good housekeeping, proper training can improve worker health and safety in the workplace. What you can do as an employee or employer to improve worker

health and safety is a constant job as part of your workday. See our checklist at the end of this guidebook to get an update on how you're doing.

- Contact our Department of Labor, **Safetyworks!** Program for free assistance and protection from regulatory enforcement. Their experience with health and safety in the workplace can help your business potentially avoid possible costly compliance issues. Contact the Maine Department of Labor at phone number 207-624-6400.

Get help with our Small Business Compliance Incentives Policy:

- The Department of Environmental Protection's Small Business Compliance Incentives Policy provides small businesses a *cost-free* opportunity to work with the Department to solve environmental problems, while avoiding the threat of enforcement action for discovered violations. Our Small Business Assistance Program has used the policy with boat builders to provide compliance and pollution prevention assistance without hassle and fear of enforcement proceedings. We continue to offer the use of this outreach tool to small businesses that qualify. Please contact our Small Business Assistance Program at 1-800-789-9802 to request a visit.

Pollution Prevention can help your business reduce waste and costs:

- Pollution Prevention (P2) is the use of processes, practices, or products that reduce or eliminate the generation of pollutants and wastes. P2 opportunities include:

<u>Materials</u>	<u>Application/Equipment</u>	<u>Cleaning</u>
<ul style="list-style-type: none">• Low styrene content, low VOC coats and resins.• Suppressants	<ul style="list-style-type: none">• Non-atomizing spray guns• Laser Touch• Flow coater spray tip• Fluid Impingement tip	<ul style="list-style-type: none">• Acetone Replacement• Accurate Amounts• Good housekeeping

Overspray is the major contributor to styrene emissions.

Please refer to the attached **Composites Work Flow Diagram** under appendices to identify opportunities to reduce waste by changing processes or using less material, or less toxic chemicals to prevent pollution.

Checklist for Small Business Assistance (includes Pollution Prevention, Compliance and “Good-Housekeeping” Tips)

- Please see the attached checklist under appendices for compliance and pollution prevention tips for your business assistance. An annual review and checkoff is recommended.

Resources and Contact Information

Office of Innovation & Assistance, Maine Department of Environmental Protection
Small Business Assistance Program and Pollution Prevention Program

Phone Number: 1-800-789-9802

Web site: www.state.me.us/dep/oia/

Air Quality Bureau Licensing Unit

Phone Number: 1-800-452-1942

Water Quality Bureau Overboard Discharge Program

Phone Number: 1-800-452-1942

Safetyworks! Program

Division of Workplace Health & Safety, Maine Department of Labor

Phone Number: 207-624-6400

Maine Marine Trade Association

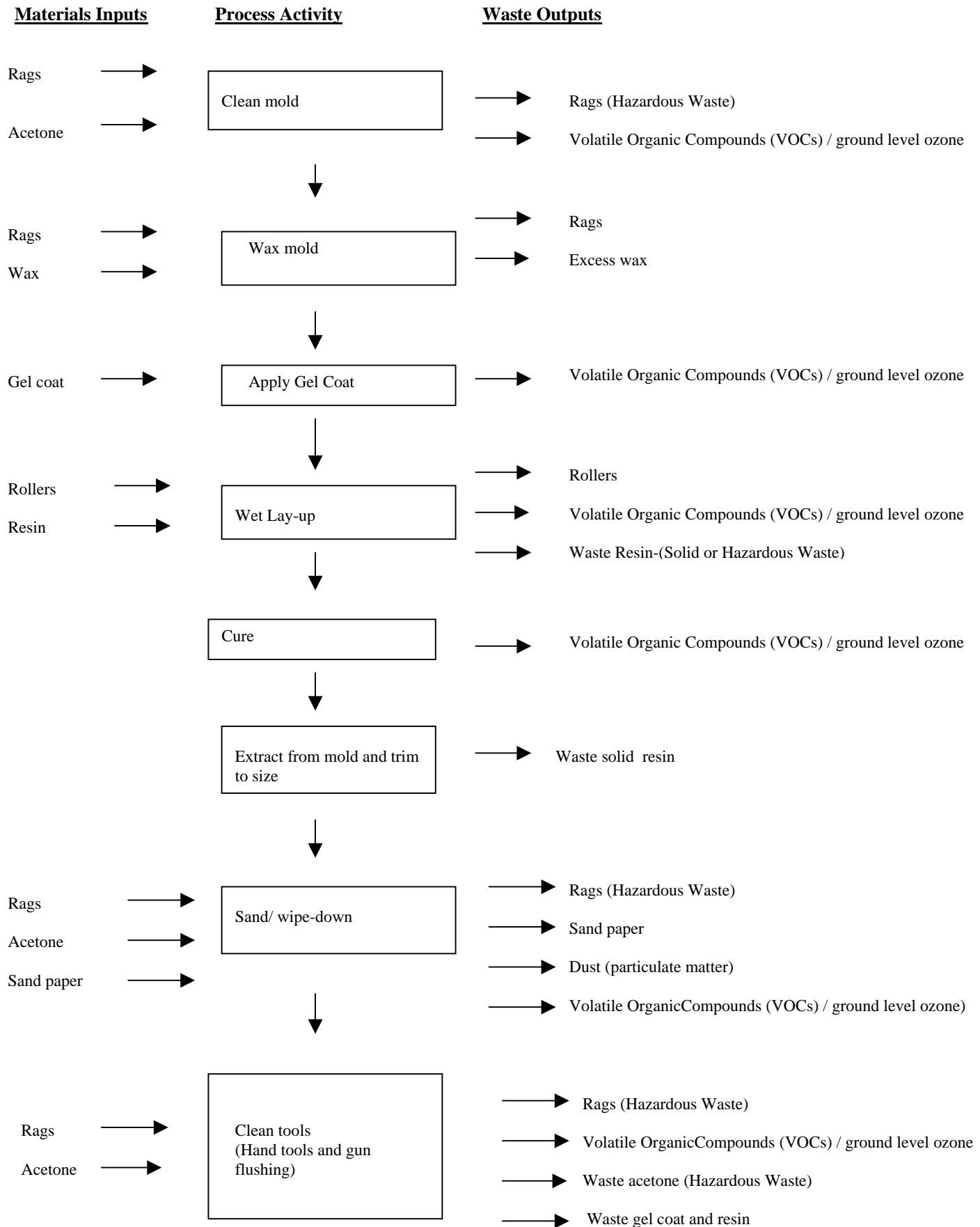
Phone Number: 207-773-8725

Appendices

- 1) Pollution Prevention Composites Work Flow Diagram
- 2) Summary Checklist for Best Management Practices

Composites Work Flow Diagram

Look at the following work flows to identify opportunities to reduce waste by changing processes or using less material, or less toxic chemicals to prevent pollution.



Maine Small Business
Technical Assistance Program
1-800-789-9802
issued: September, 2002

Maine Department of
Environmental Protection
1-800-452-1942
www.state.me.us/dep

Smart Business Practices Boat Building & Repair *Summary Checklist*

Benefits/Background: The following is a summary of some suggestions for best managing your business to help reduce your costs, reduce waste, keep hazardous substances out of the environment, and protect your health. Although not all are specifically required, we recommend that you read through and check how your business is doing.

Materials associated with boat repair and servicing businesses include (see specific guide sheet *Smart Business Practices* noted in parentheses below):

- **Fuels**.....(*Management for Fuel System Wastes*)
- **Engine Oil, transmission, and hydraulic fluids**.... (*Management for Handling and Disposal of Waste Oil, Oily Waste, and Filters*)
- **Parts Cleaning Solvents**.....(*Management for Parts Cleaning Solvents*)
- **Mercury Switches**
- **Batteries**.....(*Management for Lead Acid Batteries*)
- **Rags and Absorbents**.....(*Managing Rags and Absorbents*)

**Check the list below to see how your business is doing.
Do you do all of the following?...**

Hazardous Material Management Many materials used in boats can be dangerous and can contaminate the ground, water, or the air. Many are toxic.

- ☐ Install and maintain impervious surfaces in all fluid servicing or management areas. (Seal the floor drain.)
- ☐ Use portable steel trays/drip pans to collect residual fluids.
- ☐ Use pumps, siphons or funnels to transfer fluids rather than pouring from open trays and pans.
- ☐ Mercury switches and lamps can be handled intact as universal waste.
- ☐ Keep waste containers in a separate, covered storage area with no floor drain.

- ❑ Install a curb, berm, or good secondary containment system to contain any wastes that may leak from storage containers.
- ❑ Inspect containers for leaks daily or at least weekly.
- ❑ Don't burn or evaporate wastes.

Recyclable Materials

- ❑ Reuse or recycle used oil.
- ❑ Reuse or recycle antifreeze.
- ❑ Reuse gasoline or manage it as hazardous waste.
- ❑ Recycle oil filters, after making sure to drain them for 24 hours.
- ❑ Recycle spent batteries, and manage damaged or leaking batteries as hazardous waste.
- ❑ Recycle or launder non-hazardous shop rags at an industrial laundry service.
- ❑ Reuse or recycle used solvents, by contracting with recycler.

Spill Containment and Clean-up (See the *Management for Spills and their Prevention* fact sheet) Many materials used in boat repair and maintenance can be dangerous and can contaminate ground, water, or the air.

- ❑ No fluids may be discharged to the ground or floors.
- ❑ Report all oil and hazardous material spills.
- ❑ Create a spill plan and train staff on how to prevent, contain, and clean up spills
- ❑ Drain fluids inside into labeled containers on an impervious surface.
- ❑ Use portable trays/drip pans to collect fluids and prevent spills
- ❑ Clean-up small spills and leaks immediately using absorbents or by excavating contaminated soil.

Site Maintenance

- ❑ Keep floors clean to avoid the need to wash. Use dry sweeping absorbents. Reuse them as long as they remain absorbent. Hosing the floors down with water or solvent can flush contaminants into the floor drains, contaminating separator sludges or possibly causing runoff to the ground.
- ❑ Use a designated holding tank to hold wash water for sampling and licensed disposal if necessary.
- ❑ Maintain all sumps and fluid containment units regularly and empty sludge and accumulated fluids. Collect any sludge and accumulated fluids for proper disposal. Frequently this will require disposal as special or hazardous waste.
- ❑ Check oil/water separator every 6 months and have it serviced annually, ideally before the rainy season. Dispose of any oil or contaminated water from the oil/water separator as waste oil or as contaminated water.
- ❑ Maintain frequent garbage service.

- ❑ Collect any water from steam cleaning engines or parts, or better still only wash engines and parts if necessary. The resulting wastewater is likely to be contaminated or hazardous from greases, oils and solvents. Test to determine the disposal requirements.

Materials Storage

- ❑ Obtain and have available Material Safety Data Sheets for hazardous materials handled at facility.
- ❑ Use compatible storage containers with tight fitting lids for all fluids.
- ❑ Keep these products in separate containers.
- ❑ Label all containers clearly.
- ❑ Provide fluid storage containers with level indicators on them to prevent overfilling.
- ❑ Avoid stacking fluid containers.
- ❑ Store batteries inside out of the weather, upright on a pallet and on an impermeable surface (avoid stacking, if possible to prevent tipping and spilling the acid).

Solvents These chemicals can compound waste problems by contaminating wash water, sludge, or bare ground with hazardous materials. Their vapors are dangerous.

- ❑ Use a solvent recycling service for parts washers.
- ❑ Keep solvents in closed containers.
- ❑ Use non-hazardous cleaners where possible and prevent contamination of these cleaners.
- ❑ Store solvents in a Flammables Cabinet.
- ❑ Do not use solvents near floor drains or over bare ground.
- ❑ Put parts to be cleaned on a drip pan, not the floor.
- ❑ Use a filtered parts washer to clean engine parts.